



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,614	10/11/2001	Chad L. Cundiff	H0001749	3286
7590	02/04/2004		EXAMINER	
BLACK LOWE & GRAHAM PLLC 816 SECOND AVENUE SEATTLE, WA 98104			LOUIS JACQUES, JACQUES H	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant No.	Applicant(s)
	09/976,614	CUNDIFF, CHAD L.
Examiner	Art Unit	
Jacques H Louis-Jacques	3661	

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 19 November 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-20 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7-11, 13-16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabel [5,936,553] in view of Hansen et al [6,567,014].

Kabel discloses a navigation device and method for displaying navigation information in a visual perspective view. As described in the abstract, in particular, navigational information (data) and attitude data are collected from the aircraft and fed into a processor. The processor transforms the navigational and attitude data into or generates a primary flight display as a function of the data to show a perspective view. Furthermore, according to Kabel, at least a current or next waypoint symbol is generated on the display. See also figure 9 and columns 2-4 and, in particular, column 5, lines 57-63. According to Kabel, the symbols may include one or more landmarks. As further described in column 9, Kabel discloses that once the perspective information has taken place, the processor draws a waypoint marker on the display. Kabel discloses one or more situation awareness symbols including speed, direction, direction, etc. See column 5. Kabel also discloses data indicative of the next waypoint. While Kabel discloses a navigation device and method for displaying navigation information in a visual

perspective view with one objective as to simplify the mental interpretation required by a navigator utilizing the navigation device, the navigation data displayed includes routes or route legs. To eliminate or minimize the amount of information displayed on the display, Hansen et al discloses an aircraft head up display system. According to Hansen et al as described, for example, in the abstract, the display “removes non-essential symbols and displays the aircraft air speed, altitude and attitude.” Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the navigation device and method for displaying navigation information in a virtual perspective view of Kabel by incorporating the teachings of uncluttered display from the aircraft head up display system of Hansen et al because such modification, among other advantages, would enable the pilot to quickly and accurately identify which way is up, thereby to immediately alert the pilot that the aircraft data are exceeding certain limits.

3. Claims 2-6, 12, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabel [5,936,553] in view of Hansen et al [6,567,014] as applied to claims 1 and 13 above, and further in view of McElreath et al [6,154,151].

While figure 2c in Kabel depicts a plurality of waypoints (50) and figures 3 and 4 show a horizon (58), neither Kabel nor Hansen et al implicitly discloses a first symbol at the horizon indicating a current waypoint and a second symbol at the horizon indicating the next current waypoint. McElreath et al, on the other hand, discloses an integrated vertical situation display for aircraft, wherein navigation data obtained from the aircraft are used to generate a display on a screen. A plurality of waypoints (current and next) is shown on the display, wherein a first symbol at horizon indicating a current waypoint and

a second symbol at the horizon indicate the next waypoint. See figure 4, column 2. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the combination of the navigation system (device and method) of Kabel and the display of Hansen et al by incorporating the features from the integrated vertical situation display for aircraft of McElreath et al because such modification will provide a more efficient system that indicates ground contours to help maintain clearance.

*Response to Amendment*

4. The amendments along with the arguments filed therewith on November 19, 2003 have been entered and carefully considered by the examiner.

In the amendments, the claims have been amended to recite the terms “airspeed, altitude, and direction of flight”. In addition, the claims have been amended to define the primary flight as “ to indicate the altitude, attitude and direction of flight”. Emphasis added. See claims 1, 13 and 19.

In arguing the rejections, Applicant argued that “[t]he limitations in a primary flight display now express in the independent claims, that the display is configured to display altitude, attitude, and direction of flight data along with the perspective view of earth ground and horizon distinguishes the claims of the application from Kabel.”

In the office action, Kabel is described as disclosing a navigation device and method for displaying navigation information in a visual perspective view. By definition, navigational information can be, among other things, waypoints, landmarks, etc. In that

respect, Kabel, contrary to Applicant's assertion, discloses generating or displaying waypoint in the visual perspective view on the display.

Applicant further argued, "Kabel does not teach the generation of the perspective view as a primary flight display, nor does Kabel teach generation of any additional data except direction of flight and route".

With respect to the added terms to the claims as amended, Kabel does not particularly discloses the airspeed, altitude and attitude. However, these added "to specifically augment the attitude data from the system" (response at page 4) are inherent to the data previously recited in the claims. Notwithstanding Applicant's arguments, however, the patent to Hansen et al is introduced for disclosing these data.

On page 5 of the response, Applicant quoted only one specific advantage offered by the teaching of Kabel. On the same page, Applicant argued that "[A] has not taught the further cluttering of the display with routes that might obscure the display of terrain data. Such a cluttered display would be at odds with the applicant's express motivation to "simplify cockpit scan management." (Para. 005, Application)."

Hansen et al, with respect to the "cluttering of the display", discloses an aircraft head up display system, wherein the display "removes non-essential symbols and displays the aircraft air speed, altitude and attitude." See abstract.

Furthermore, Figure 1 shows a perspective view (bird's eye view) of earth ground and horizon conforming to a view from the aircraft.

Accordingly and in light of the amendments, the claims are now rejected under a new ground of rejection. The use of the Hansen patent, thus this new ground of rejection, is necessitated by the amendments. Therefore, this office action is made final.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,825,374 King et al Apr. 1989

6,496,760 Michaelson et al Sec. 2002

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H Louis-Jacques whose telephone number is 703-305-9757. The examiner can normally be reached on M-Th 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1111.

Jacques H Louis-Jacques  
Primary Examiner  
Art Unit 3661

/jlj  
January 14, 2004

JACQUES H LOUIS-JACQUES  
PRIMARY EXAMINER